5.2 AD HOC QUERIES

Introduction

The Ad Hoc Query option, option #1 from the Queries button on the TOOLS menu provides access to the SAS Query module. This module allows you to perform queries and searches on SAS data sets. Results from the queries can be used to create selection sets for use in the Review and Correction module. (See Chapter 4.1 for more information on selection sets.) Results can also be saved and/or downloaded for other purposes.

The SAS Query module is a SAS product. Because StEPS only provides access to this SAS product, the StEPS User Manual does not give detailed information on how to use this function. The User Manual provides some very basic information on creating and saving queries, but it is highly recommended that you take the SAS ASSIST class offered at the Bureau for more detailed information on using this tool. On-line HELP is also provided within the SAS Query module and can be helpful for beginners.

Accessing the SAS Query Module

- Click on the TOOLS button from the StEPS Main Menu.
- Select the "Queries" button from the Tools Menu.
- Select the "Ad Hoc" query option.

You will see this message:

> **"To use query results in review and correction: 1) Include ID in your query, 2) Create a table (dataset) of the query results."**

This message alerts you to the fact that the StEPS Review and Correction functions all require a case ID. If you want to save your query for further analysis using Review and Correction functions, be sure you select ID when you select your variables (see section 5.2.2). Also, when you save your query (section 5.2.4) select the "table" option.

Click OK to link to the SAS Query module.

NOTE: The SAS Query module is also accessible from the Review and Correction Main Menu by selecting the "Create selection set using Query module" option. After selecting this option, you will be prompted to create an ID data set (see Section 5.1 for information on creating ID data sets). You can then use the Query module to perform queries on the ID data set. Results from the query can be used to create a selection set for use in the Review and Correction module. (See Chapter 4.1 for more information on selection sets.)

Screen Features

5.2.1 SELECT TABLE (FILE) TO QUERY

The first screen to display in the Query module is the "SQL Query Tables" screen. It is from this screen that you will indicate which table (or data set) you want to query.

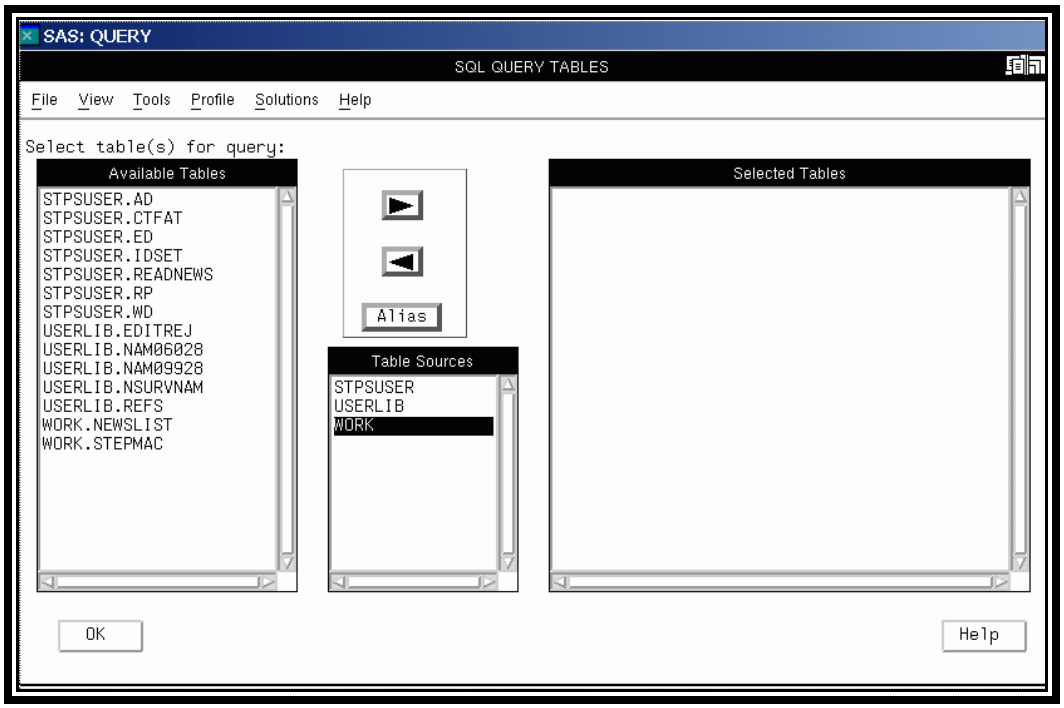

Figure 5.2.1 Select Table (data set) to Query

- There are 3 boxes of information on the screen:

  1. Available Tables — Displays a list of available data sets from which to choose; includes the name of the data set and the library in which it is located (i.e., STPSUSER.IDSET, where STPSUSER is the libname and IDSET is the name of the data set.)

  2. Table Sources — Displays a list of available libraries (or directories). The data sets displayed in the "Available Tables" box are located in these libraries.

  3. Selected Tables — Displays the table(s) (or data sets) that you have selected from the "Available Columns" box.

- Choose a table source (library) from the "Table Sources" column.

- Highlight the data set (from the "Available Tables" box) that you want to query. Click on the arrow pointing to the right, '➤' to select it. It should now display in the "Selected Tables" column.

- To deselect a table (remove it from the "Selected Tables" box), highlight the table and then click on the arrow pointing to the left.

NOTE: If you want to query an ID data set created from the "Create ID Data Set" screen, select the data set "STPSUSER.IDSET" from the "Available Tables" box.

- Once you have selected the data set(s) you want to query, click on "OK" at the bottom of the screen.

NOTE: If you want to save the data set under a different name, you can do so now by clicking the button labeled "Alias." This will display a box asking you for a new name for your data set. After you enter the new name, click "OK" to return to this screen. Then click "OK" to continue to build your query.

5.2.2 SELECT VARIABLES (FROM TABLE) TO USE IN QUERY

Once you have indicated which table (data set) to query, you must indicate which variables from the data set you wish to include in your query. Do this using the "SQL Query Columns"screen. This screen will display automatically after you have chosen the data set (table) from the "SQL Query Tables" screen.

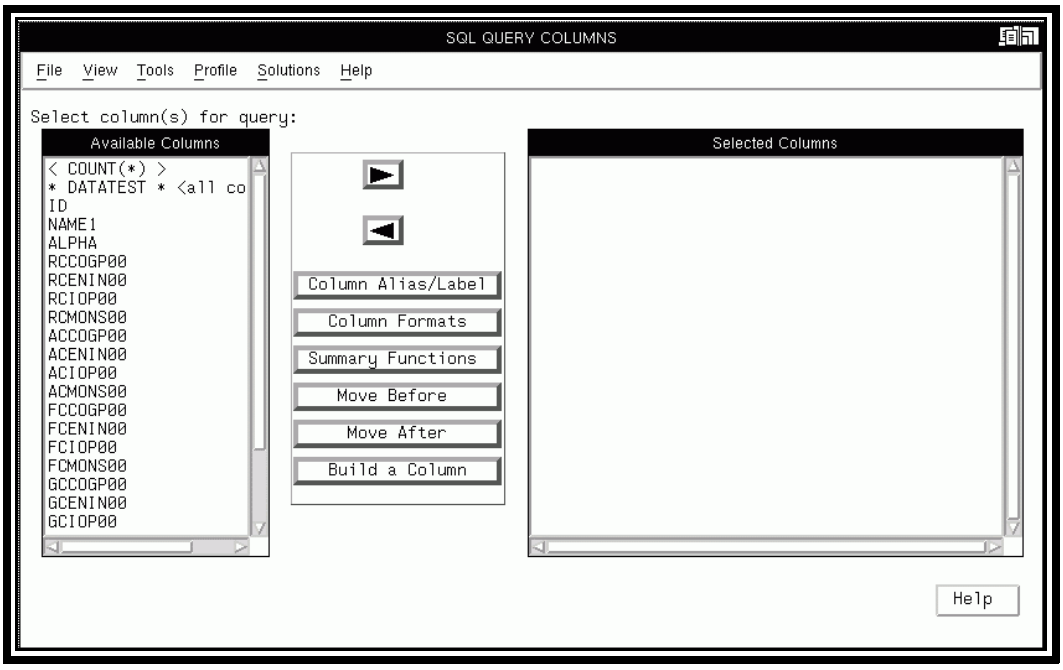

Figure 5.2.2 Select Variables to include in query

- Options available on this screen include the following:

1.	Available Columns	Lists the control and/or item variables contained in the data set(s) to be queried.
2.	Selected Columns	Displays the variables you have chosen to include in your query.
3.	Column/Alias	Allows you to rename a variable in the data set (for display in the output only) or enter a label for a variable.
4.	Column Formats	Allows you to choose a format for the output variables.
5.	Summary Functions	Allows you to choose from a variety of summary functions (i.e., min, max, sum, avg, count) to be performed on selected variables.
6.	Move Before	Allows you to move a variable BEFORE another variable in the "Selected Columns" box.
7.	Move After	Allows you to move a variable AFTER another variable in the "Selected Columns" box.
8.	Build a Column	Allows you to create a variable (column) from existing variables in the data set, using summary functions and/or operators. You must provide a name (alias) for the column you are creating.

- Highlight the variables (from the "Available Columns" box) that you want to include in your query. Click on the arrow pointing to the right, '➤' to select them. These variables will now appear in the "Selected Columns" box.

- To deselect a variable (remove it from the "Selected Columns" box), click on the variable and then click on the arrow pointing to the left.

5.2.3 DEFINE QUERY

Once you have selected the variables to include in your query, you are ready to define the query.

- Select the VIEW pmenu option.

- Select the "Where Conditions for Subset....." option to display the following screen:

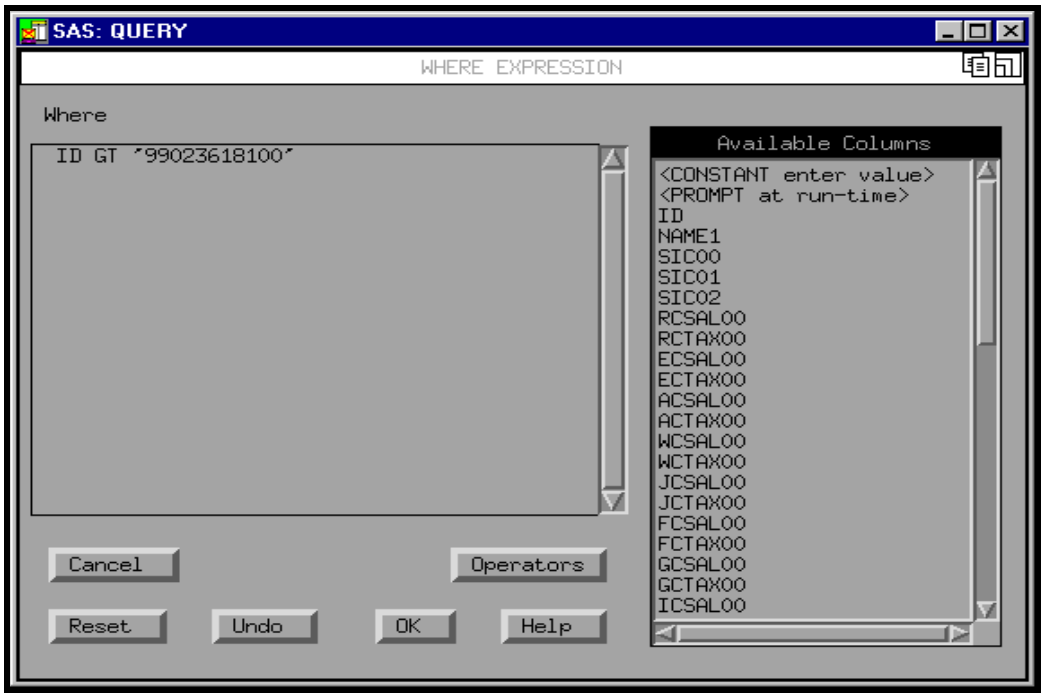

Figure 5.2.3 Define Query Screen

- To define a query, you must select a variable (from the "Available Columns" box), choose an operator, and select a constant. Keep in mind that control variables from the Stat Period Control file and item variables from the Item file will have a suffix of '00', '01', or '02' depending on the stat periods selected. In addition, item variables will also have a prefix (i.e., 'A'-adjusted, 'E'-edited, 'W'-weighted, 'R'-reported).

  For example, if you want to define a query that will find all cases from the current stat period where "SIC = 50321" ('SIC00' is the variable, 'EQ' is the operator, and '50321' is the constant), you would do the following:

  1. Select "SIC00" from the "Available Columns" box. (The suffix "00" indicates that the SIC is from the current stat period.)
  2. Click on "Operators" to bring up a pick list of available operators (i.e., EQ, NE, GT, GE, LT, LE).
  3. Click on "EQ" (equal to)
  4. Click on "<CONSTANT enter value>" from the "Available Columns" box.
  5. Another box will display. Enter the constant "50321" in the first box and press <ENTER> OR select "LOOKUP" to display a pick list of valid SIC's, from which to choose.

  NOTE: CLICK ON THE HELP BUTTON TO ACCESS HELP INFORMATION ON USING THIS SCREEN.

- You may choose a single variable or a combination of variables and operators when defining your query.

- As you define your query, it will be displayed in the “Where” box on the left side of the screen. Choose a button from the bottom of the screen to do the following:

OK	Indicate that you have completed your query definition.
UNDO	Remove the last variable, operator, or constant from the query.
HELP	Access HELP information on using this screen.
RESET	Clear your current query.
CANCEL	Cancel out of this screen and return to the previous screen.

NOTE: If you plan to use the results of your query to create a selection set (for use in the Review and Correction module), you must include the control variable ‘ID’ in the query.

5.2.4 RUN QUERY / SAVE QUERY

Once you have defined the your query and clicked “OK,” you will return to the SQL Query Column screen where you may review your query, run it, or save it.

- Select the TOOLS pmenu option from the “SQL Query Columns” screen. (See Figure 5.2.2)

- Select the “Show Query” option to display the following screen:

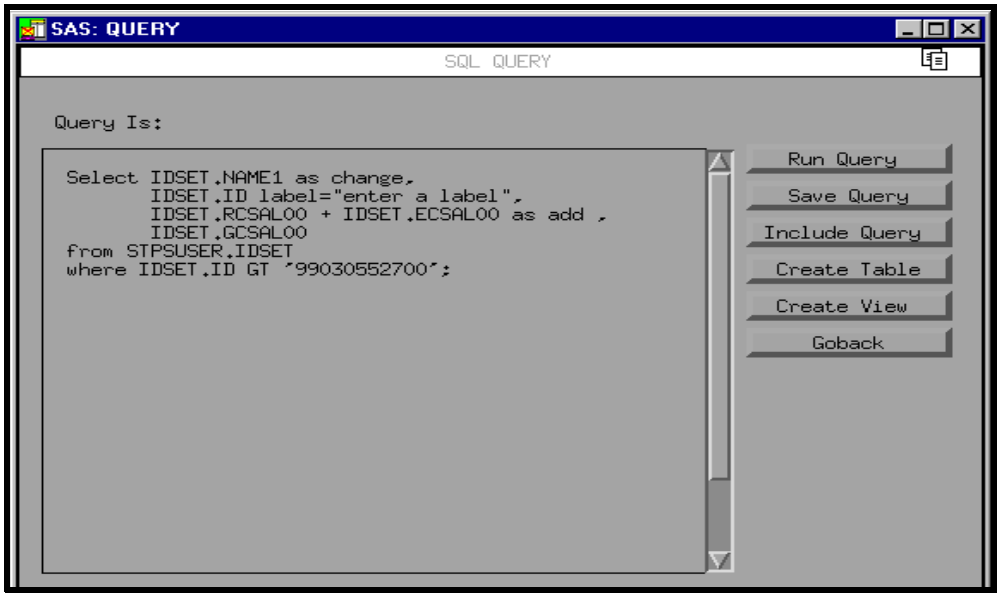

Figure 5.2.4 Show Query

- The Query that you have defined will appear in the box on the left.

- Select the “Run Query” button to run the query. Query results will display on your screen in the SAS Output window.

  After you have reviewed the results, click on the EDIT pmenu, and select the “Clear text” option before running another query. Results from your next query will be appended to the current query results, unless you clear the output window.

- If you want to save a query to analyze later you must do so BEFORE YOU RUN THE QUERY. Click the “Save Query” button to save the query definition to a file. You will be prompted to enter a library, catalog, data set name, and description. You **MUST** use the libname of “STPSUSER”. Entering a description is optional.

- Select the “Create Table” option to save the query results to a file. The screen shown as 5.2.5 will appear.
  You will be prompted to enter a library, table (data set name), and label. You **MUST** use

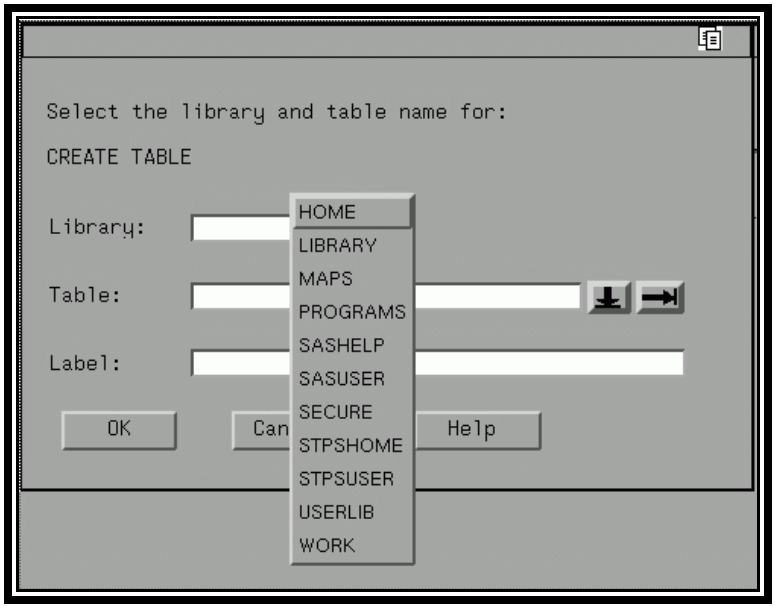

Figure 5.2.5 Create Table screen showing pick list of libraries

the libname of “STPSUSER”. Entering a label is optional.

NOTE: If you plan to use the results of your query to create a selection set for use in the Review and Correction module, you must save the results of your query to a ‘table’.

- After entering the required information, click on “OK” to run the query. A message will display in the upper left portion of the screen, indicating how many observations are included in the results.

5.2.5 EXIT THE QUERY MODULE

- To exit the query module, click on the FILE pmenu and select the "Close" option. You will be returned to the StEPS Tools Menu.

> There are many different options/functions available within the SAS Query module. Only the very basics have been described here. For more information on using the SAS Query module, it is recommended that you take the SAS ASSIST class.